We Claim

1. A method for detecting head motion and providing feedback to a user engaged in a physical activity the method comprising:

providing head gear for wearing on a user's head, wherein the head gear comprises a sensor for detecting motion of the head gear;

providing a processor that

stores a predetermined sensor value corresponding to a preferred path of motion for the head gear and

receives input from the sensor indicative of the motion of the head gear;

comparing the input from the sensor to the predetermined sensor value; and

generating a feedback signal indicating the result of the comparison of the input from the sensor to the predetermined sensor value.

2. The method of claim 1, wherein the physical activity comprises hitting a golf ball and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating that the head gear has remained in an arming position for a predetermined duration.

3. The method of claim 2, wherein the step of generating a feedback signal further comprises:

generating an arming feedback signal when the result of the step of comparing the input from the sensor to a stored sensor value indicates that the input substantially agrees with the stored sensor value.

4. The method of claim 1, wherein the physical activity comprises hitting a golf ball and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating a backswing head position.

5. The method of claim 4, wherein the step of generating a feedback signal further comprises:

generating a first backswing feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear rotated beyond a predetermined rotation point;

generating a second backswing feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear translated beyond a predetermined translation point; and

generating a third backswing feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear inclined or declined beyond a predetermined inclination point.

6. The method of claim 1, wherein the physical activity comprises hitting a golf ball and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating a forward swing head position.

7. The method of claim 6, wherein the step of generating a feedback signal further comprises:

generating a first forward swing feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear rotated beyond a predetermined rotation point;

generating a second forward swing feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear translated beyond a predetermined translation point; and

generating a third forward swing feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear inclined or declined beyond a predetermined inclination point.

8. The method of claim 1, wherein the physical activity comprises hitting a golf ball and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating a follow through head position.

9. The method of claim 8, wherein the step of generating a feedback signal further comprises:

generating a first follow through feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear rotated beyond a predetermined rotation point;

generating a second follow through feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear translated beyond a predetermined translation point; and

generating a third follow through feedback signal when the result of the step of comparing the input from the sensor to the stored sensor value indicates that the head gear inclined or declined beyond a predetermined inclination point.

10. The method of claim 1, wherein the physical activity comprises hitting a ball with a bat and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating that the head gear has remained in an arming position for a predetermined duration.

11. The method of claim 10, wherein the step of generating a feedback signal further comprises:

generating a first arming feedback signal when the result of the step of comparing the input from the sensor to a stored sensor value indicates that the input substantially agrees with the stored sensor value; and

generating a second arming feedback signal when the result of the step of comparing the input from the sensor to a stored sensor value indicates that the input does not substantially agree with the stored sensor value.

12. The method of claim 1, wherein the physical activity comprises hitting a ball with a bat and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating a load at pitch head position.

13. The method of claim 12, wherein the step of generating a feedback signal further comprises:

generating a load at pitch feedback signal when the result of the step of comparing the input from the sensor to a stored sensor value indicates that the input deviates from the stored sensor value.

14. The method of claim 1, wherein the physical activity comprises hitting a ball with a bat and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating bat swing head position.

15. The method of claim 15, wherein the step of generating a feedback signal further comprises:

generating a feedback signal when the result of the step of comparing the input from the sensor to a stored sensor value indicates that the input deviates from the stored sensor value.

16. The method of claim 1, wherein the physical activity comprises hitting a ball with a bat and the step of comparing the input from the sensor to the predetermined sensor value further comprises:

comparing the input from the sensor to a stored sensor value indicating follow through head position.

17. The method of claim 16, wherein the step of generating a feedback signal further comprises:

generating a feedback signal when the result of the step of comparing the input from the sensor to a stored sensor value indicates that the input deviates from the stored sensor value.

18. An apparatus for detecting the motion of a user's head during the user's performance of a physical activity, the apparatus comprising:

a sensor, wearable on the user's head, wherein the sensor detects motion of the user's head;

a processor that

stores a predetermined sensor value corresponding to a preferred path of motion for the head gear,

receives input from the sensor indicative of the motion of the head gear, and

compares the input from the sensor to the stored sensor value; and

a feedback indicator that generates a feedback signal indicative of the result of the comparison of the input from the sensor to the stored sensor value.

19. The apparatus of claim 18, wherein the sensor further comprises:
a band, wearable about the user's head, and comprising three sensor nodes positioned around the band.

20. The apparatus of claim 19, wherein the three sensor nodes are positioned around the band at positions along a circumference of the band that substantially correspond to locations of 90 degrees, 180 degrees, and 270 degrees.

21. The apparatus of claim 18, wherein the sensor comprises a gyroscopic sensor.

22. The apparatus of claim 18, wherein the sensor comprises an accelerometer sensor.

23. The apparatus of claim 18, wherein the processor further comprises:
a data augmentation unit comprising a portable processor based device.

24. The apparatus of claim 23, wherein the data augmentation unit further comprises:
an interface that enables data stored in the data augmentation device to be uploaded to a processor based device.

25. The apparatus of claim 24, wherein the processor based device further comprises:
a processor based device capable of communicating over the Internet.

26. The apparatus of claim 18, wherein the feedback indicator further comprises:
a display on a data augmentation unit.

27. The apparatus of claim 26, wherein the display further comprises:
a screen for displaying visually perceptible information.

28. The apparatus of claim 23, wherein the data augmentation unit further comprises:
a user interface to enable the user to input information.

29. The apparatus of claim 28, wherein the input information further comprises:
information relating to a club type.

30. The apparatus of claim 28, wherein the input information further comprises:
information relating to a distance from a target.

31. The apparatus of claim 28, wherein the input information further comprises:
information relating to an angle from a target.

32. The apparatus of claim 28, wherein the input information further comprises:
information relating to scorekeeping.

33. The apparatus of claim 28, wherein the input information further comprises:
information relating to a pitch type.

34. The apparatus of claim 28, wherein the input information further comprises:
information relating to a pitch speed.

35. The apparatus of claim 28, wherein the input information further comprises:
information relating to a pitch location.

36. The apparatus of claim 28, wherein the input information further comprises:
information relating to a hit result.

37. The apparatus of claim 28, wherein the input information further comprises:
information relating to a field position.

38. The apparatus of claim 28, wherein the input information further comprises:

information relating to a batting average.

39. The apparatus of claim 23, wherein the data augmentation unit receives input from the sensor via a wireless connection.

40. A method for providing analysis of a physical activity comprising:

enabling a user to upload data pertaining to the user's head motion during the physical activity onto a processor based device;

enabling an evaluator to access the data pertaining to the user's head motion; and

communicating, to the user, the evaluator's analysis of the data pertaining to the user's head motion.

41. The method of claim 40, further comprising:

collecting the data pertaining to the user's head motion using a head motion sensing apparatus.

42. The method of claim 40, wherein the step of enabling a user to upload data further comprises:

enabling the user to upload data to a processor based device that is connected to a network of processor based devices.

43. The method of claim 42, wherein the network of processor based devices further comprises the Internet.

44. The method of claim 40, wherein the step of enabling an evaluator to access the data further comprises:

enabling the evaluator to access the data pertaining to the user's head motion via a network of processor based devices.

45. The method of claim 44, wherein the network of processor based devices further comprises the Internet.

46. The method of claim 40, wherein the step of communicating the evaluator's analysis further comprises:

communicating the evaluator's analysis via a network of processor based devices.

47. The method of claim 46, wherein the network of processor based devices further comprises the Internet.

48. The method of claim 40, wherein the physical activity is golf.

49. The method of claim 40, wherein the physical activity is batting.

50. A data collection unit capable of receiving a signal from an input device and storing the signals in a digital format, the data collection unit comprising:

an input channel for receiving input from a sensor;

a set point sensor for sensing a set point event that indicates a transition in a data collection process;

a data storage device for storing data corresponding to the input received at the input channel;

an interface for uploading the stored data to a processor device.

51. The data collection unit of claim 50, further comprising:

a remote display.

52. The data collection unit of claim 50, wherein the set point sensor further comprises:

a microphone for sensing an audible set point event.

53. The data collection unit of claim 50, wherein the sensor further comprises:

a gyroscopic sensor;

a accelerometer sensor; and

a housing that houses the gyroscopic sensor and the accelerometer sensor.